

What is claimed is:

1. A short-arc, ultra-high-pressure discharge lamp, comprising:
a luminescent tube containing a pair of facing electrodes, and
side tubes extending from opposite sides of the luminescent tube, a portion of the
electrodes being sealed within said side tubes;

wherein a small space is provided between the electrodes and an inner surface of said
side tubes for enabling the electrodes to expand and contract freely without compression
along their axes due to a difference in indices of expansion of materials that make up the
electrodes and the side tubes.

2. A method of manufacturing a short-arc, ultra-high-pressure discharge lamp having
a luminescent tube containing a pair of facing electrodes, and side tubes extending from
opposite sides of the luminescent tube, a portion of the electrodes being sealed within said
side tubes, comprising the steps of:

1) sealing an electrode and a metallic foil connected thereto within one of the side
tubes by heating the side tube to a temperature higher than the softening point of the side
tubes;

2) following said sealing, cooling the side tube to seal and fix the metallic foil in the
side tube;

3) after said cooling, re-heating a portion of the side tube in which the electrode is
sealed so as to soften said portion of the side tube and produce contact with the electrode
while said portion is in a viscous, fluid state; and

4) vibrating the re-heated side tube, while the temperature of the portion of the side
tube in which the electrode is sealed is in a temperature range between a softening
temperature and an annealing temperature of the side tube, in a manner causing the electrode
to rub against the contacting portion of the side tube while said portion is in a viscous, fluid
state.

09874231-060604